# Earth 107: Module 11 Lab

Important! We advise you to either print or download/save this document as it contains the steps you need to take to complete the Lab in Google Earth. In addition, it contains prompts for measurements and questions that you should take note of (by writing down or typing in) as you work through the Lab.

Once you have worked through all of the steps, you will go to the **Module 11 Lab** **in Canvas** to complete the Lab by answering multiple-choice questions. The answers to questions on this Lab worksheet will match choices in the multiple-choice questions in Canvas. Submit the quiz in Canvas for credit.

## General Instructions for Module 11 Lab

### Objective of the Lab: The objective of Lab is for you to create portions of a post-disaster recovery plan for the Sarasota, Florida to develop an understanding of the post disaster recovery planning process.

Using real data for Sarasota, FL, you will identify infrastructure and social vulnerability characteristics of the community and consider disaster response and recovery needs. Before you begin the Lab, please be sure that you have read over the **Post-Recovery Plan Tasks** located on the web site.

# Activity 1: Collecting Community-Based Data

Let's begin by collecting some information about the community of Sarasota County, Florida. Collecting information about the people and characteristics of a place can help to identify social and physical vulnerability factors.

First, go to the **U.S. Census Bureau’s QuickFacts page** (located on the Module 11 Lab page under Downloads/Resources). Enter Sarasota County, Florida. You should see two data columns pop up, one for Sarasota County and one for the United States. Scroll through the data table to find the answers to the following questions.

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| Questions for Activity 1 (1-4)  1. What is the population of Sarasota County, Florida? 2. What percentage of the population of Sarasota County is >65 years old? 3. What percentage of persons under 65 years is living without health insurance? 4. How does the percentage of people living in poverty in Sarasota County compare to the national average? |

Now open Google Earth and navigate to Lido Key at 27.30986111, -82.57388889 Zoom into an eye altitude of 500-750 meters and explore the oceanfront in this area.

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| Questions for Activity 1 (5)  1. What seems to be the primary land use in Lido Key? |

Go to the **Sarasota County Know Your Level Storm Surge Risk Map (**located on the Module 11 Lab page under Downloads/Resources).

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| Questions for Activity 1 (6)  1. How many evacuation routes are there leaving Lido Key and going to the mainland? |

# Activity 2: Matching Topics with Themes

Assume that you are a member of the organizing team for the forum tasked with developing the post-storm surge disaster recovery plan for Sarasota County. The team has held the first session of the forum, and the participants have identified many critical issues that must come under one of following recovery themes: housing, economic, social, environmental, and land use and development. Your task is to link the critical issues with the recovery themes.

### Instructions

Read through the critical issues listed below and decide which recovery theme fits each item best. Using the table below, match the critical issues below the correct recovery themes.

#### Critical Issues

* Distribution of industrial and commercial areas in relation to storm-surge risk zones
* Protecting the elderly
* Restoring mangroves
* Post-disaster psychological problems
* Distribution of infrastructure in relation to storm-surge risk zones
* Rebuilding the downtown business district
* Health care and emergency facilities in relation to storm-surge risk zones
* Building post-disaster tourism
* Protecting dunes and beaches
* Minimizing storm surge vulnerabilities through zoning
* Post-disaster unemployment
* Debris recycling

**Recovery Themes**

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| **Social/housing recovery** | **Environmental recovery** | **Economic recovery** | **Land use and development recovery** |
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# Activity 3: Pre-disaster vs. Post-disaster Activities

Imagine you are a member of the leadership team developing the post-disaster recovery plan for Sarasota County. The team has finished the two sessions of the forum and is in the stage of writing the post-disaster recovery plan. The participants of the forum identified actions to be taken in response to a coastal disaster. Your job on the leadership team is to classify those issues into pre-disaster and post-disaster actions.

**Instructions**

First, read through the actions listed below. Next, decide whether the action is a pre-disaster or post-disaster action. Mark the actions in the table below as pre-disaster or post-disaster. **Important note: Some actions may be applicable both pre- and post- disaster. In this case, you should label them as pre-disaster actions, as it will be best to begin implementing them in advance of an actual disaster.**

**Actions**

* Evaluate areas that may be ideal for redevelopment. Assess their vulnerability to disasters based on flooding, proximity to water, sea level rise, ages of structures, and intensity of use.
* Review damage assessment and coordinate rebuilding in accordance with plans/rules established pre-disaster.
* Develop criteria to determine redevelopment priority areas, taking into consideration various planning scenarios.
* Develop a comprehensive communication plan designed to increase awareness, support, and action regarding all of the environmental restoration issues with a focus on creating ecological resilience.
* Utilize public outreach efforts, such as visioning, charrettes, and workshops to assist with developing redevelopment criteria, planning scenarios, and priority areas.
* Consider establishing a temporary moratorium on rebuilding to allow for repair and rebuilding of damaged infrastructure necessary to support rebuilding.
* Implement post-disaster zoning allowances for temporary housing with a set time limit that can be extended as necessary.
* Analyze land use and density in conjunction with the county’s risk and vulnerability assessment to determine those areas most suitable for alternative uses in order to decrease future risk.
* Seek opportunities for redevelopment projects to connect to the central water and sewer systems within the central service districts, consistent with the Comprehensive Plan.
* Develop criteria to dictate parameters of rebuilding in high-hazard areas if they are greatly damaged in a disaster.

**Pre- and Post-disaster Actions**

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| **Pre-disaster Actions** | **Post-disaster Actions** |
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Lab Completion Instructions

Once you have worked through all of the steps, go to the **Module 11 Lab** **in Canvas** to complete the Lab by answering the multiple-choice questions. Remember, the answers to questions on this Lab worksheet will match choices in the multiple-choice questions in Canvas. Submit the quiz in Canvas for credit.